WHAT DOES GEOGRAPHIC INFORMATION SYSTEMS (GIS) MEAN FOR THE CITY OF MIAMI GARDENS?

Miami Gardens has come a long way since its incorporation in May 2003. The City has shown its leadership through many redevelopment and technological initiatives such as the City's Town Center and a comprehensive EDEN database software program. Establishing a city-wide enterprise Geographic Information Systems (GIS) program and being the first City in Miami-Dade County to hold a GIS Day event is no exception to the rule. This November 15th marks yet another GIS Day during the Geography Awareness Week as part of National Geographic Society's initiative for the global GIS community that involves over 80 countries around the world. As part of GIS Day, Miami Gardens is holding an open house and a workshop that will endeavor to involve all three generations and provide a fun-filled learning experience on GIS through special demos, materials and targeted activities.

But what is this GIS that the professionals keep referring to? How does it work? Does it have any relationship with geography since it is part of its name? Does GIS have any relationship with fields other than geography? How will it benefit you? This article or the workshop may not make you an instant expert in the field. However this article will be considered a success after having recognized its implications and being able to answer your children when they ask you, "What is GIS"?

What is GIS?

Since its beginnings in 1960, GIS has become a highly advanced tool to solve real-world problems and provide futuristic scenarios. Very simply put, GIS is the hi-tech version of a regular map. The system allows making multiple copies of updated maps without having to redraw the whole map as had to be done previously; maps can be created dynamically in real-time; data can be stored and shared by multiple users at the same time; complex analytical capabilities vary from geographic to anatomical, and from weather to property related data.

GIS is a unique technology that incorporates visual (spatial) and tabular (attribute) types of data in its system to create intelligent maps. The spatial part of the system is related to geographic or locational data that is linked to a real location on earth. The attribute data provides other important information such as address, land use, name of owner and census numbers that is connected to the spatial data. GIS allows these two types of data to work together simultaneously with each other. This is the unique power of GIS that has allowed it to become the most effective technology today.

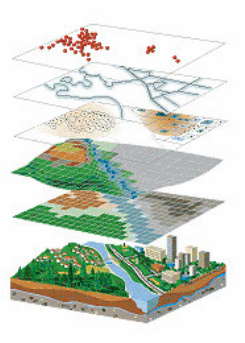
How does GIS work?

Imagine a sandwich with layers consisting of bread, mayonnaise, mustard, cheese, tomatoes and so on. A GIS data set is also a "sandwich" that has its own set of layers that may consist of properties, right-of-way lines, parcel lines, water bodies, trees, and so on. See Figures 1 and 2.

Figure 1

Source: Clip Art

Figure 2

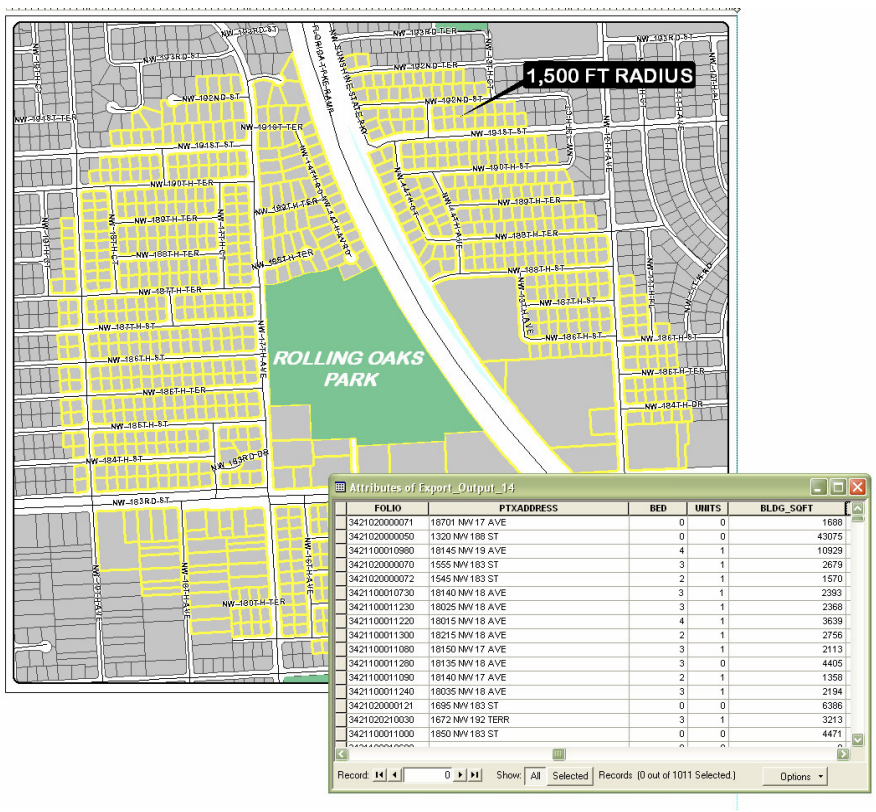


Source: http://www.gis.com/whatisgis/whyusegis.html

How is GIS used in Miami Gardens?

The user is allowed to combine the layers based on the information that you need and answer pertinent questions.

As an example, Miami Gardens is using GIS to identify a 1,500 feet buffer against child molesters around public parks. The database is linked with all the property addresses within the radius and answers questions such as "how many homes are protected by this radius?" Again, linking the census data to this database, it answers questions such as "how many school children live within this radius that may be a potential target by a child molester?"; "what are the ages of these school aged children?" Answers to such questions help the police, crime watch groups and other civic organizations to ensure a safe environment for the children of Miami Gardens and benefits the society as a whole.



Where else can GIS be used?

GIS is not limited to geography and spatial analyses. GIS is being utilized in a variety of disciplines from computer science, medicine to economics. GIS has in some or other way touched our day to day lives without us even realizing it. If you have used internet to obtain directions, yes, you have used GIS. If you have a GPS (Global Positioning System) locator on your car's dashboard, congratulations, you are using GIS to reach your destination. The new Walmart Stores in Miami Gardens probably used GIS to identify customer demand in this City.

Conclusion

Miami Gardens is committed to be a City that is "Striving to be the Best". This upcoming GIS Day event in November will be a wonderful opportunity for its citizens to expand their horizons and be part of this initiative. The author hopes that this article has provided some basic information to the reader and will create more curious participants for the GIS Day Workshop.

Interested individuals seeking to expand their horizons have a standing invitation to contact Bhairvi Pandya, Senior Planner/GIS at the Planning and Zoning Department, 1515 NW 167th Street, Building 4, Suite 170, call (305) 622-8026, or email at <bpandya@miamigardens-fl.gov>.